

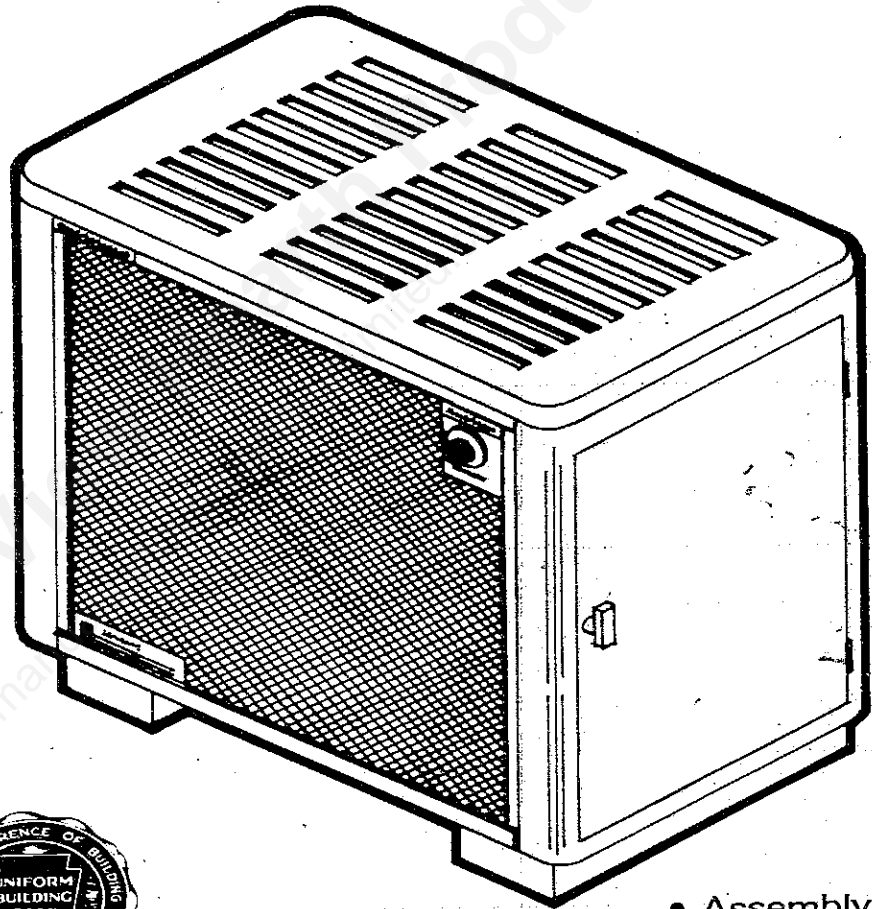
Model 4027

owners manual

Wonder Wood/Coal

AUTOMATIC WOOD/COAL BURNING CIRCULATOR

(BURNS WOOD, BITUMINOUS, OR ANTHRACITE COAL)



SAFETY NOTICE:

If this heater is not properly installed, a house fire may result. For your safety, follow the installation directions. Contact local building or fire officials about restrictions and installation inspection requirements in your area.

CAUTION:

Read All Instructions Carefully Before Starting The Installation or Operating The Heater.

Improper Installation Could Void Your Warranty!

Save This Manual
For Future Reference



Report No. 2073



UNITED STATES STOVE COMPANY

3500 N. Hawthorne Street — P. O. Box 5349
Chattanooga, Tennessee 37406

- Assembly
- Installation
- Operation
- Repair Parts



FORM 85384D 7/85

CONGRATULATIONS!

You've purchased one of America's Finest Wood and Coal Burning Heaters. By heating with wood you're helping CONSERVE AMERICA'S ENERGY! Wood is our Renewable Energy Resource. Please do your part to preserve our wood supply. Plant at least one tree each year. Future generations will thank you.

ATTENTION NEW OWNER! PLEASE READ BEFORE USING HEATER

This solid fuel room heater is designed to operate at a very high efficiency. With the incorporation of a stainless steel heat exchanger in the top of the combustion chamber, it is designed to retain a high percentage of the heat that normally goes out the chimney with other heaters. Due to this unique design when the thermostat is set on high or during "heat up" periods, in a dimly lighted or dark room, you may see a slight glow appear on the top of the combustion chamber in the heat exchanger area. **DO NOT BE ALARMED** — this unit is designed and constructed of quality materials to withstand temperatures in excess of 1000° F; and if operated in accordance with instructions in the owner's manual, this unit will give you years of comfortable and economic service.



LIMITED 3 YEAR WARRANTY

WARRANTY:	The United States Stove Company warrants its solid fuel heaters against burn-out or cracking of any steel or cast iron parts.
TIME PERIOD:	The warranty period extends 3 years from date of purchase by original owner.
CLAIM PROCEDURE:	Any defects relating to burn-out or cracking of any steel or cast iron parts should be reported to United States Stove Company, giving description and pertinent data. Include proof of purchase, which will be returned on request.
OUR RESPONSE:	Providing the heater has been installed and used in accordance with the owners manual supplied with the heater, United States Stove Company will either: <ol style="list-style-type: none">(1) Replace the defective part free of charge, including payment of any labor charges, or(2) Replace the heater free of charge, including payment of any labor charges.
NOT COVERED:	Smoking problems are not covered under this warranty. Inadequate draft is generally due to the design or installation of the flue system.
WARRANTOR:	United States Stove Company, Box 5349, Chattanooga, Tennessee 37406
NOTE:	This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Introduction

This heater is approved for installation in either a mobile home or in a permanent residence. If the heater is to be installed in a mobile home, follow the instructions in this owner's manual entitled, "Installation In a Mobile Home." If the heater is to be installed in a permanent residence, follow the instructions in the section entitled, "Installation In A Permanent Residence." Failure to follow the proper installation instructions could result in death, serious bodily injury, and/or property damage. **Improper Installation could void your warranty!**

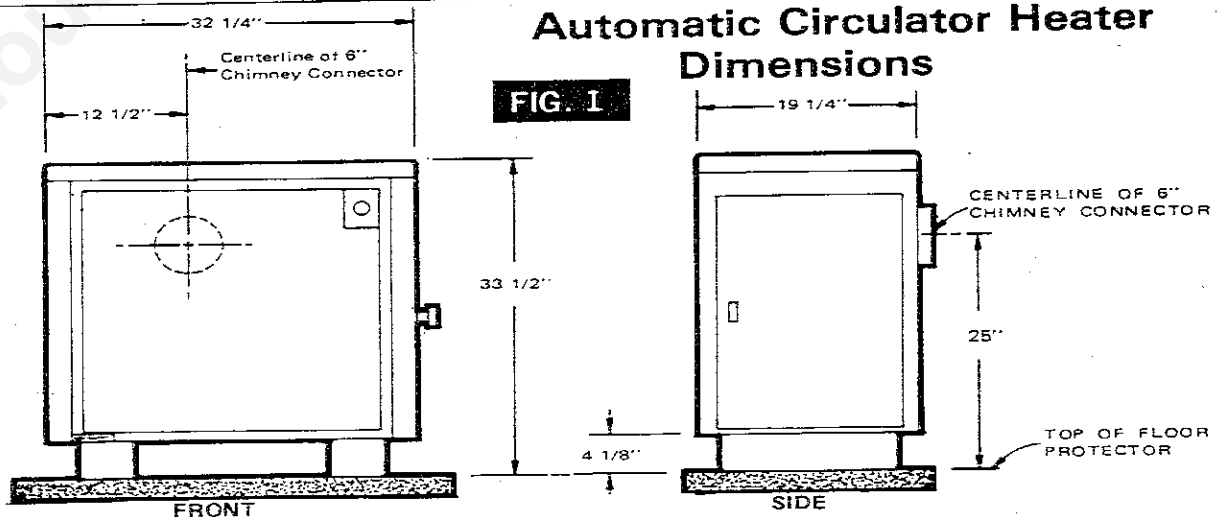
rules for safe installation and operation

Read these rules and the instructions carefully.

SAFETY NOTICE: If this heater is not properly installed, a house fire may result. For your safety, follow the installation directions. Contact local building or fire officials about restrictions and installation inspection requirements in your area.

1. Check your local codes. The installation must comply with their rulings.
2. Do not install this heater in a sleeping room.
3. This heater must be vented to the outside. Never vent to another room or inside a building.
4. Do not connect a wood burning heater to an aluminum Type B gas vent. This is not safe and is prohibited by the National Fire Protection Association Code.
5. Be sure that your Chimney is safely constructed and in good repair. Have the chimney inspected by the Fire Department or a qualified inspector. Your insurance company may be able to recommend a qualified inspector.
6. Inspect chimney connector and chimney twice monthly during the heating season for any deposit of creosote or soot which must be removed (see Chimney Maintenance, page 20).
7. Provide air for combustion from outside the house into the room where the heater is located. If the intake is not in the same room, air must have free access to the room.
8. **CAST IRON PARTS MUST BE "SEASONED" TO AVOID CRACKING. BUILD ONLY SMALL FIRES ON FIRST USE.**
9. To prevent injury, do not allow anyone to use this heater who is unfamiliar with the correct operation of the heater.
10. For further information on using your heater safely, obtain a copy of the National Fire Protection Association (NFPA) publication "Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliance" NFPA No. 211. The address of the NFPA is Battermarch Park, Quincy, MA 02269.
11. Keep the ashpit section free of excess ashes. Do not allow ashes to stack higher than the sides of the ash pan.
12. **DISPOSAL OF ASHES-** Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.
13. **CAUTION-** The special paints used on your heater may give off some smoke while they are curing during first few fires. Build small fires at first. The metals used in construction of the heater has a light coating of oil. This could give off smoke and/or odors when heater is used for the first couple of times. This should disappear after a short period of time. Once this burn-off has occurred, it should not reoccur.
14. **CARING FOR PAINTED PARTS -** This heater has a painted outside jacket, which is durable but it will not stand rough handling or abuse. When installing your heater, use care in handling. Clean with soap and warm water when heater is not hot. **DO NOT** use any acids or scouring soap, as these wear and dull the finish. **PAINT DISCOLORATION WILL OCCUR IF THE HEATER IS OVERFIRED. FOLLOW OPERATING INSTRUCTIONS CAREFULLY.**
15. Keep the feed door, ash door, cabinet door closed at all times except while tending the heater.
16. **DO NOT USE** the coal bricks that are manufactured from coal dust and a wax-type binder.

CAUTION: Do not touch the heater until it has cooled.



SECTION I

Installation In A Permanent Residence

Forward

1. This section applies only to heaters installed in a permanent residence
2. This heater requires a masonry or a U. L. Listed Residential Type and Building Heating Appliance Chimney. Use a 6" diameter chimney or larger that is high enough to give a good draft.
3. Provide air for combustion from outside the house into the heater by means of the air inlet as shown in the installation instructions (p. 17). Otherwise, provide air for combustion from outside the house into the room where the heater is located.



Report No. 2073

tools and materials needed

TOOLS

Pencil
6 Foot Folding Rule or Tape
Tin Snips
Drill, Hand or Electric
Drill Bit (For Sheet Metal Screws)-1/8" dia.
Screw Driver (Blade-Type)
Gloves
5/16" Nut Driver or
5/16" Socket w/Ratchet

MATERIALS

Chimney Connector-6" dia. Black or Blued Steel
(24 gauge min.): straight or elbow (as required):
1/2" Sheet metal screws (10A x 1/2")
6" Inside diameter Underwriters Laboratories (UL)
Listed Residential Type and Building
Heating Appliance Chimney
or existing masonry chimney.
Floor Protector Material 3'-0" x 4'-6"
as specified on Page 5.
Furnace Cement (Manufacturer recommends:
Rutland Black-Code 78 or equivalent).

locating the heater

A. Standard Clearance Installation

AS A LOCATION IS SELECTED, KEEP THE FOLLOWING IN MIND:

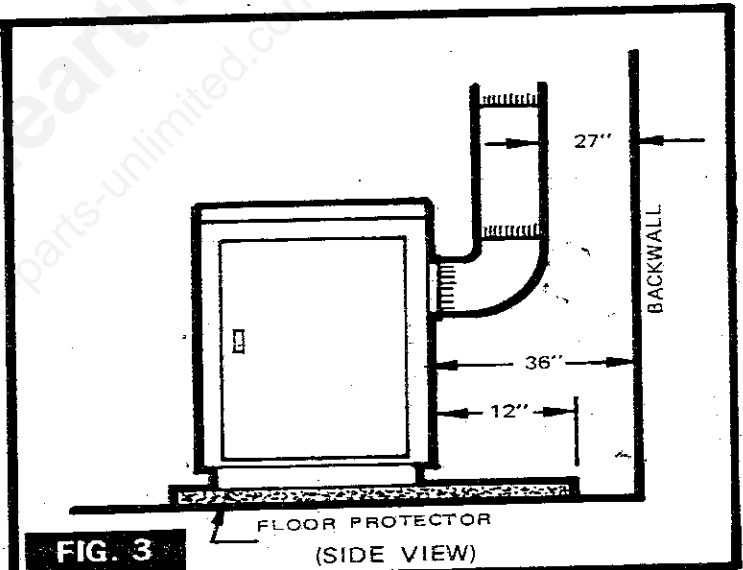
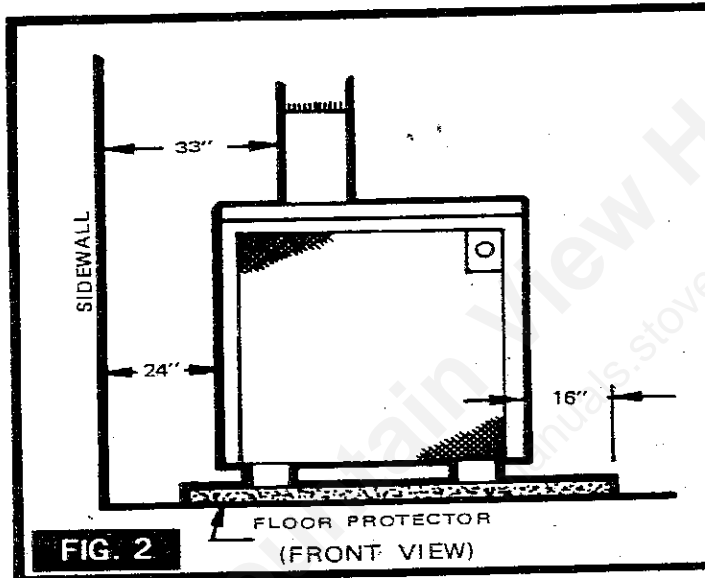
1. The chimney connection should be as short as possible. The heater must have its own chimney. Do not connect this unit to a chimney flue serving another appliance. If there is no chimney near where you wish to place the heater, you can use a UL Listed Residential Type and Building Heating Appliance Chimney. (Fig. 8).

2. Place the heater on solid masonry or solid concrete. When the heater is used on a combustible floor, use a non-combustible floor protector 3/8" millboard having a thermal

conductivity of $K=0.84$ BTU in/ft.² hr. deg. F with 28 gauge sheet metal or a U.L. listed floor protector. Have the floor protector extend 16" beyond the door side of the heater and under the connector pipe in the back (Fig. 4).

3. Check Figures 2, 3 and 4. Be sure you have the clearances shown from the heater and the connector pipe to combustible surfaces. If you have a solid brick or stone wall behind your heater, you can place the heater as close as you wish to the wall. If the wall is only faced with brick or stone, treat it as a combustible wall.

MINIMUM CLEARANCE TO COMBUSTIBLE WALLS

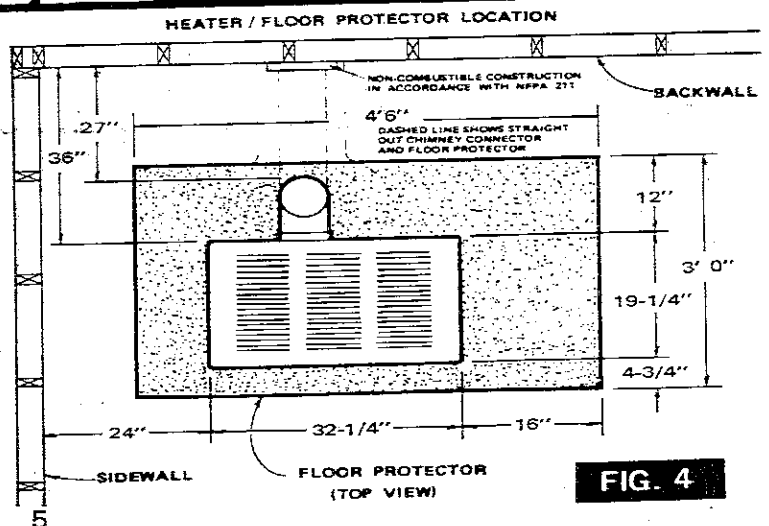


NOTE: BEFORE FIRING HEATER

1. Remove plastic knob from inside cabinet door and install on outside (Refer to p. 23).
2. Slide firebricks toward the rear so no gaps remain between them.

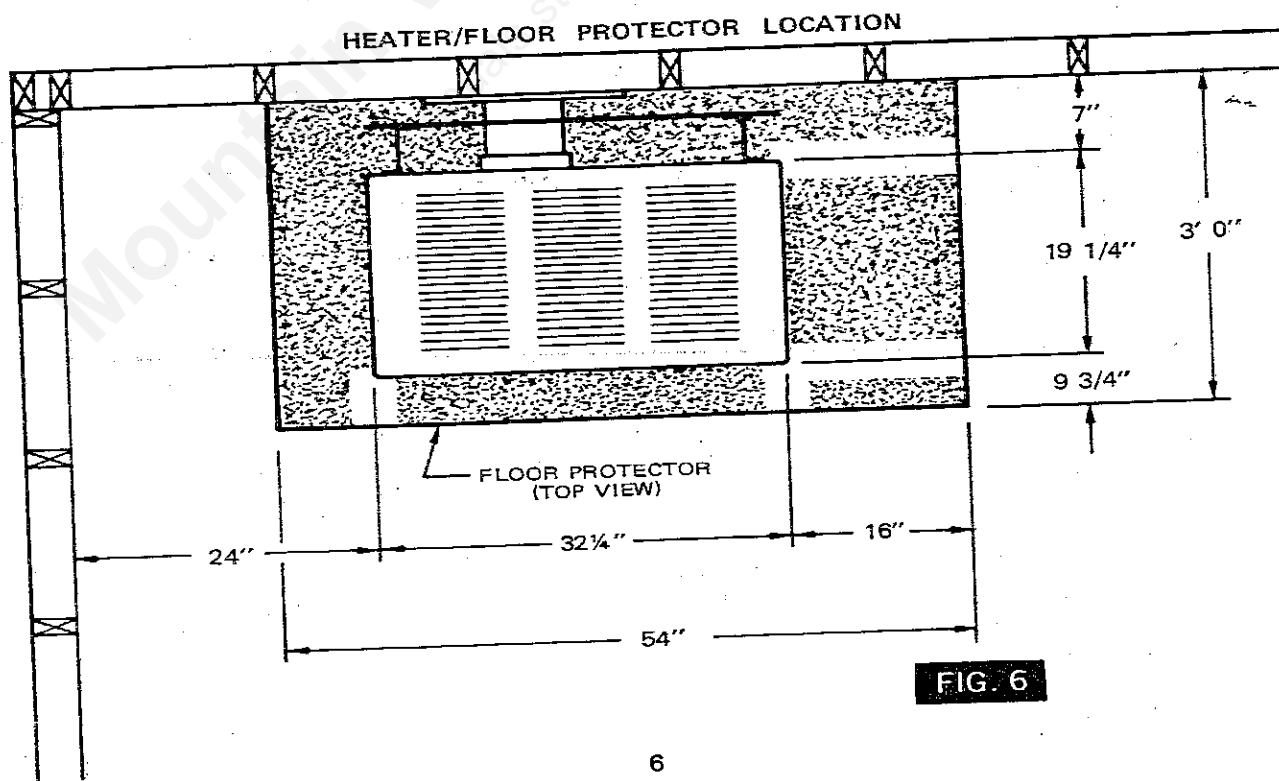
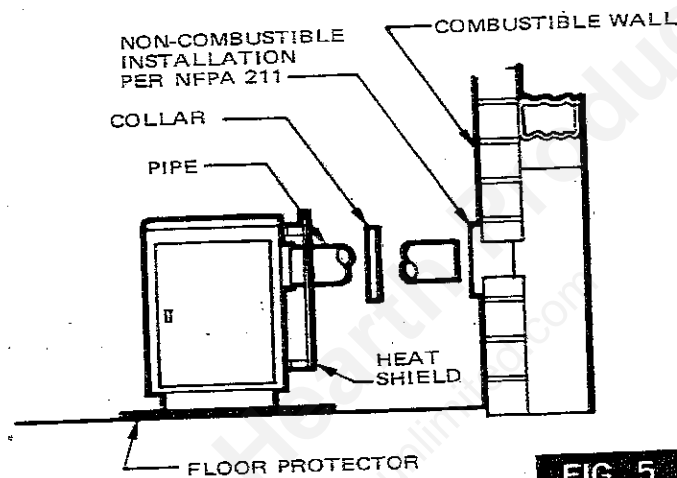
CAUTION

Keep furnishings and other combustible materials away from the appliance.



B. Minimum Clearance Installation

1. The heater may be installed with a minimum backwall clearance of 7" installed with the heat shield as shown in Fig. 6.
2. Before installing the heater, mount the heat shield as instructed in Section II, page 15.
3. The chimney must be a masonry chimney or a UL Listed Residential Type and Building Heating Appliance Chimney.



chimney connection

MASONRY CHIMNEY

Before using an existing masonry chimney, clean the chimney and inspect the flue liner to be sure it is safe to use. Make repairs before attaching the heater. See Pg. 3 item 5.

Look at Fig. 7. The connector pipe and fittings you will need to connect directly to a masonry chimney are shown.

If the connector pipe must go through a combustible wall before entering the masonry chimney, consult a qualified mason or chimney dealer. The installation must conform to local fire codes, and N.F.P.A. 211.

Do not connect this heater into the same chimney flue as the fireplace or flue from another heater.

The chimney used for a heater must not be used to ventilate the cellar or basement. If there is a cleanout opening at the base of the chimney, close it tightly.

UL LISTED CHIMNEY

Carefully follow chimney manufacturer's instructions. Use only a UL Listed Residential Type and Building Heating Appliance Chimney. If your chimney starts at the ceiling (Fig. 8), you will need a 6" elbow and enough 6" pipe to reach the ceiling.

The top of the chimney must be at least 3 feet above the roof and be at least 2 feet higher than any point of the roof within 10 feet (Fig. 8).

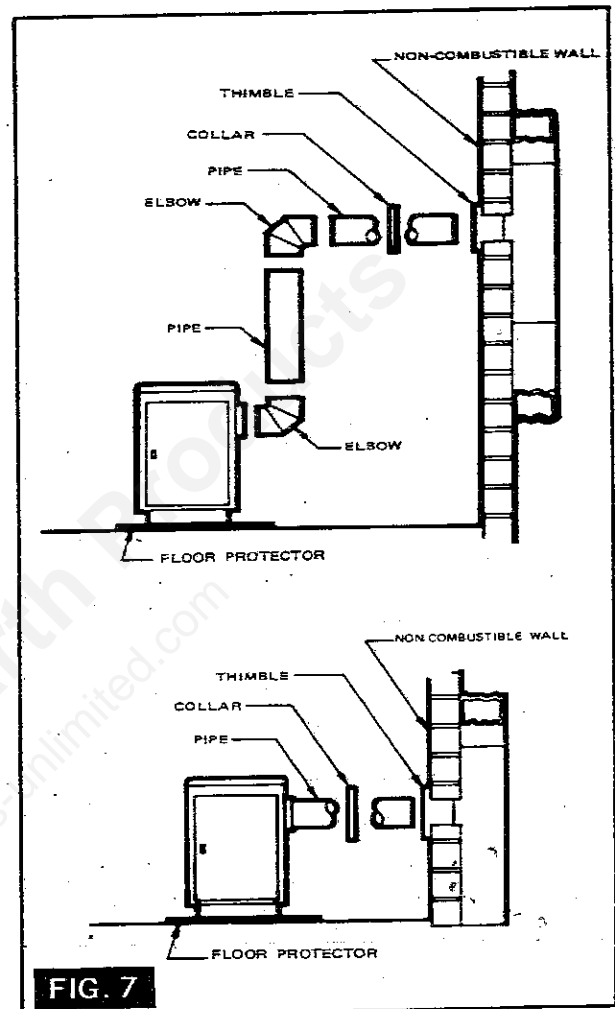


FIG. 7

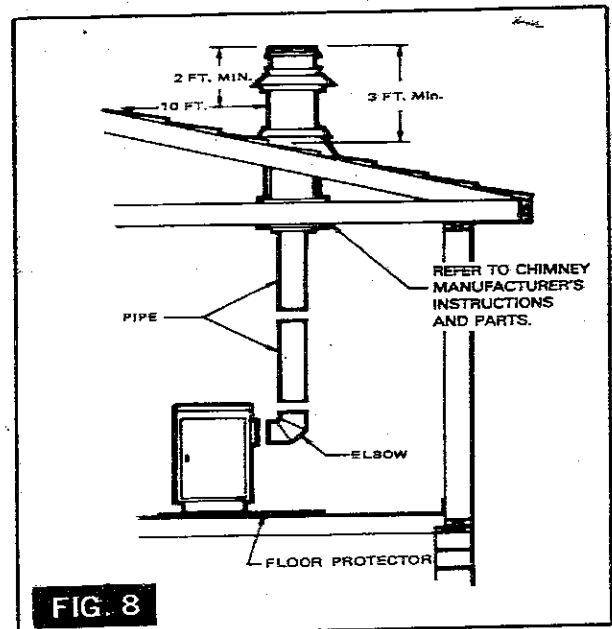


FIG. 8

venting into a fireplace

Many people may wish to convert an existing fireplace to wood heater use. Usually, safe connection of stovepipe to a masonry chimney requires more effort than connection to a prefabricated chimney. There are two methods (Type A and Type B) to accomplish this. No matter which method you choose, the fireplace must be tightly closed and sealed at the damper in the flue. Good sealants are high-temperature caulking, ceramic wool, and furnace cement. Always remember to inspect the masonry chimney and fireplace. If necessary, clean the flue and smoke shelf before beginning your installation. Install the wood heater into the fireplace so that the system can be dismantled for cleaning and inspection.

Before deciding to convert your fireplace, keep in mind that some fireplaces and existing chimneys are unsafe. They must be structurally sound, and the flue liner must be in good condition. Clearances to combustibles are explained in the previous section on masonry chimneys. If you have any question regarding the condition of the chimney, consult a qualified engineer, competent mason, or knowledgeable inspector.

— CAUTION —

**NOT ALL FIREPLACES ARE SUITABLE FOR
INSTALLATION OF A WOOD HEATER.**

Many prefabricated fireplaces fall into the "zero-clearance fireplace" category. This is a factory-built metal fireplace with multilayered construction. It is designed to provide enough insulation and/or air cooling so that the base, back, and sides can be safely placed in direct contact with combustible floors and walls. Although many prefabricated fireplaces have been tested by nationally recognized organizations for use as fireplaces, they have not been tested to accept airtight wood heaters. In fact, their use as such may void the manufacturer's warranty.

Steel-lined fireplaces, on the other hand, can be used with airtight wood heaters. These units use a 1/4-inch firebox liner and an air chamber in connection with 8 inches of masonry to meet code. They contain all the essential parts of a fireplace; firebox, damper, throat, smoke shelf, and smoke chamber. Many of them look exactly like a masonry fireplace and must be checked closely for above requirements before installing a wood heater into them.

Another method frequently used by some people is to vent the wood heater directly into the fireplace. This does not meet code since the heater is being vented into another appliance—the fireplace. This method should not be attempted because combustion products will deposit and build up in the firebox or fireplace. Be certain not to install a hazard in your house.

Type A Installation

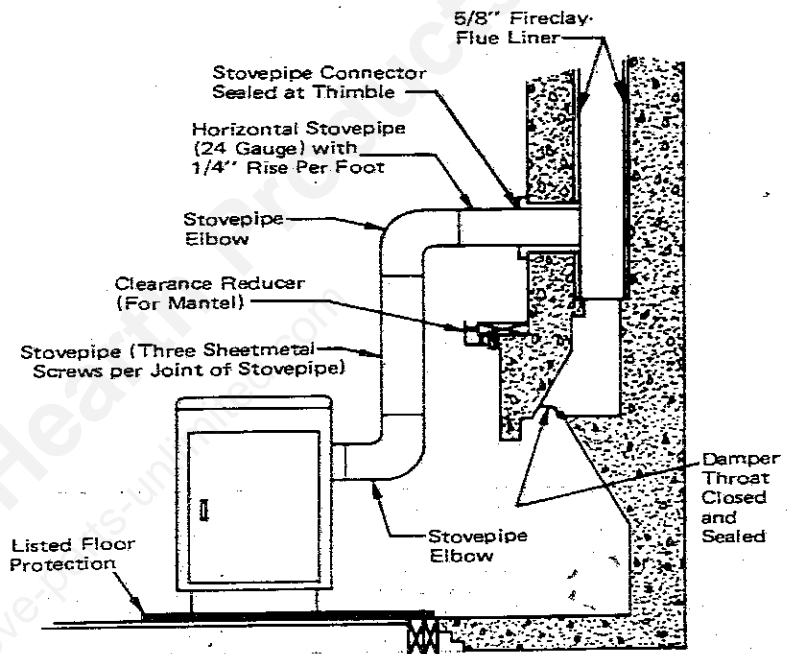
Connection of the stovepipe directly into the existing masonry chimney over the fireplace opening is the most desirable method. This installation performs better, yielding more heat and better draft; it is also easy to clean and inspect for creosote. Before beginning this type of installation plan carefully; a high degree of skill is required to insure safety.

An entry port for the stovepipe must be cut through the chimney with minimum damage to the fireclay liner. Some involved measurements may be required to locate the flue liner exactly. Before cutting, take time to mark the size and position of the entry port. Position the entry port so that at least 8 inches of the flue liner remain below the port.

Keep in mind that wood mantels and combustible trim around the fireplace must have adequate clearances from the heater and stovepipe or must be protected in an approved manner. Also, be sure to leave at least an 18-inch clearance between the top of the stovepipe and the combustible ceiling or other combustibles. Placing the center of the entry port 2 feet below the ceiling will insure proper clearance for 6-inch, 8-inch, and 10-inch stovepipes.

Next, install a fireclay (at least 5/8 inch thick) or metal thimble, being sure that the thimble is flush with the inner flue lining; secure the thimble in place with refractory mortar. The thimble should be surrounded on all sides with 8 inches of brickwork (solid masonry units) or 24 inches of stone.

Install the stovepipe as far as possible into the thimble, but not past the inside of the flue lining. There should be a small airspace (approximately 1/2 inch) between the stovepipe and thimble, allowing for expansion of the stovepipe. Seal this airspace with high-temperature caulking or ceramic wool. Finally, be sure to wire the damper closed and apply the same sealant you used at the stovepipe and thimble junction.

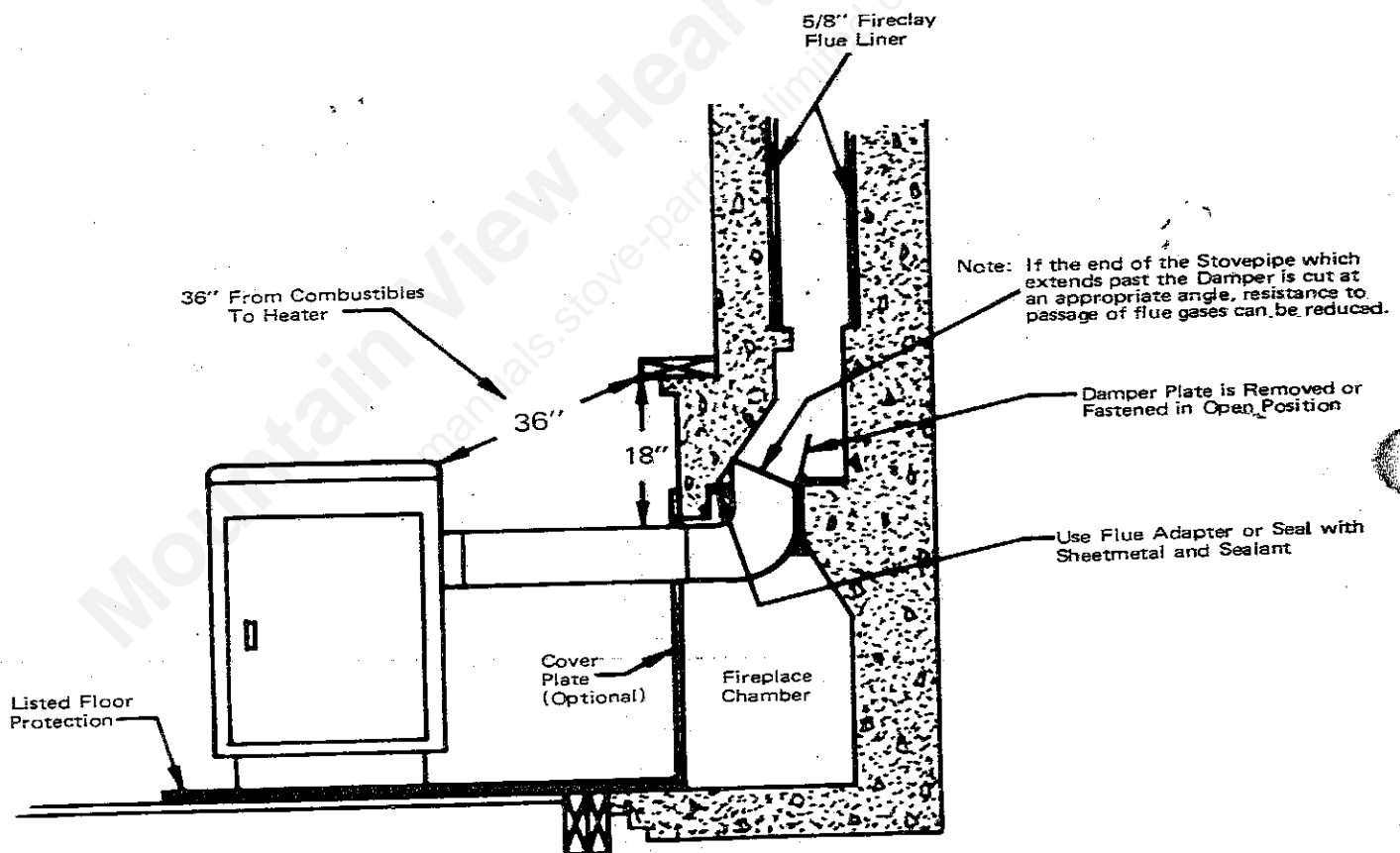


TYPE A **FIG. 9**
FIREPLACE CONVERSION

Type B Installation

The next method, Type B, is acceptable but is more difficult to operate and maintain than Type A. Remove the damper and cut a piece of 24 gauge sheet metal to rest on the damper frame. Cut a hole in the sheet metal to accept the stovepipe. Insert the stovepipe as far as possible into the flue past the throat or damper plate. (If the end of the stovepipe which protrudes past the damper is cut at an appropriate angle, resistance to passage of flue gases can be minimized.) Finally, fasten all junctions

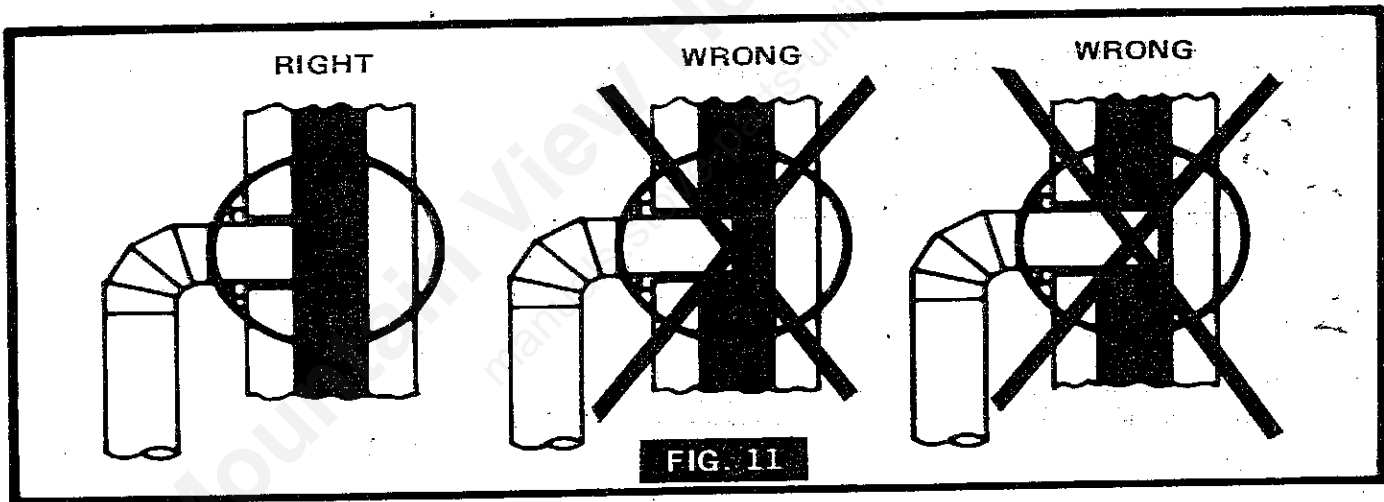
between the sheet metal and damper frame and between the sheet metal and stovepipe. For an airtight system, be sure to seal these junctions with high-temperature caulking, ceramic wool, or furnace cement. Instead of a sheet metal closure at the damper, a prefabricated flue adapter of 12 gauge, low-carbon steel or stainless steel may be sealed into place to accept the stovepipe. Be sure to fasten and seal the stovepipe to the flue adapter.



TYPE B **FIG. 10**
FIREPLACE CONVERSION

Rules For Connector Pipe Installation

1. The crimped end of the stovepipe fits inside the heater flue collar. Install additional pipe and elbow with the **CRIMPED END TOWARD THE HEATER**. This will allow any condensation in the flue to run back into the heater.
2. Slope any horizontal pipe upward toward the chimney at least $\frac{1}{4}$ inch for each foot of horizontal run.
3. You must have at least 18 inches of clearance between any horizontal piping and the ceiling.
4. The pipe cannot extend into the chimney flue (Fig. 11).
5. Seal each connector pipe joint with furnace cement. Also seal the pipe at the chimney.
6. Use 3 sheet metal screws at each joint to make the piping rigid.
7. Do not put a damper in a connector pipe.
8. It is recommended that no more than two 90° bends be used in the stovepipe installation as more than two may decrease the amount of draw and possibly cause smoke spillage.



SECTION II

Installation In A Mobile Home

Forward

1. This section applies only to heaters installed in a mobile home.
2. This heater requires a U. L. Listed Residential Type and Building Heating Appliance Chimney. Use only those chimneys shown on the label plate and owner's manual.
3. Provide air for combustion by providing outside air to the heater following the instructions in the Section entitled "Combustion Air Inlet."

tools and materials needed

TOOLS

Pencil
6 Foot Folding Rule or Tape
Tin Snips
Drill, Hand or Electric
Drill Bit (For Sheet Metal Screws)-1/8" dia.
Screw Driver (Blade-Type)
Gloves
Saber Saw
5/16" Nut Driver or
5/16" Socket w/Ratchet

MATERIALS

Chimney Connector-6" dia. Black or Blued
Steel (24 gauge min.)
1/2" Sheet metal screws (10A x 1/2")
6" Inside diameter Underwriters Laboratories (UL)
Listed Residential Type and Building
Heating Appliance Chimney
Floor Protector Material 3'-0" x 4'-6"
as specified on Page 5.
Furnace Cement (Manufacturer recommends:
Rutland Black-Code 78 or equivalent).

SECTION II

Installation in a Mobile Home

REMOVAL OF FLOOR SHIELD COVER PLATE

When the Model 4027 is installed in a mobile home or installed in a permanent residence using outside air, it will be necessary to remove the Floor Shield Cover Plate part number 22179, (Item No. 4 on page 27).

LOCATING THE HEATER

1. The heater should be located in the largest room of the mobile home.

Removal of the cover plate will require leaning the heater to one side and removing two (2) sheet metal screws that secure the cover plate to the floor shield. These screws can be removed by use of a standard flat blade screwdriver, or a 5/16" nut driver.

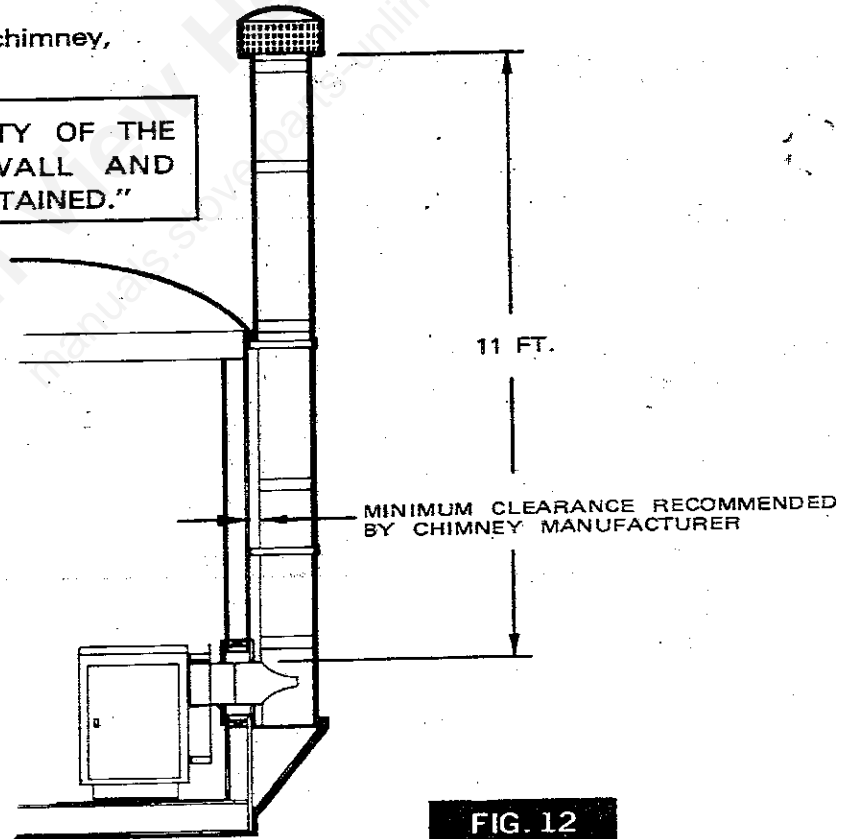
WARNING

DO NOT INSTALL THIS HEATER IN A SLEEPING ROOM.

2. The heater is to be located a minimum of 7" from a back wall and 24" from a side wall. (See Fig. 12)
3. When installing the heater and chimney,

CAUTION

"THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL AND CEILING/ROOF MUST BE MAINTAINED."



Chimney and Inlet Combustion Air Connectors

1. The chimney for the heater must be one of the following triple wall chimneys.
LISTING OF CHIMNEY PARTS BY MANUFACTURER'S MODEL AND TYPE
 (ALL ARE 6" I. D. TRIPLE WALL PIPE COMPONENTS)
LISTED CHIMNEY TYPES — MANUFACTURER

Chimney Parts Description	Air Jet 6H	Amerivent FB-6	Duravent 6-DCR	Metal Fab 6A
Wall Support	6HWS	6HS-WS	5072	6AWS
Insulated Tee w/Cap	6HT	6-FB-TA	5067	6AT
Weather Shield	6HWSH	—	—	—
Wall Thimble	6HWT	6HS-WTP	5043	6AWFS
Face Plate	6HFP	FB-CS-FP	—	6AWFA
36" Chimney Sec.	6H3	FB-36	5017	6A36
24" Chimney Sec.	6H2	FB-24	5021	6A24
12" Chimney Sec.	6H1	FB-12	5014	6A12
6" Chimney Sec.	—	—	—	6A6
Adj. Length Chimney	—	—	5025B	—
Wall Band	6HWP	6HS-SBA	5068	6AWB
Cap w/Spark Arrester	6HUS	6HS-RCS	5078	6ACB
Connection of Stove to chimney by	6" Con. Adapter	6" Conn. Adapter	6" Conn. Adapter	6" Chimney Connector

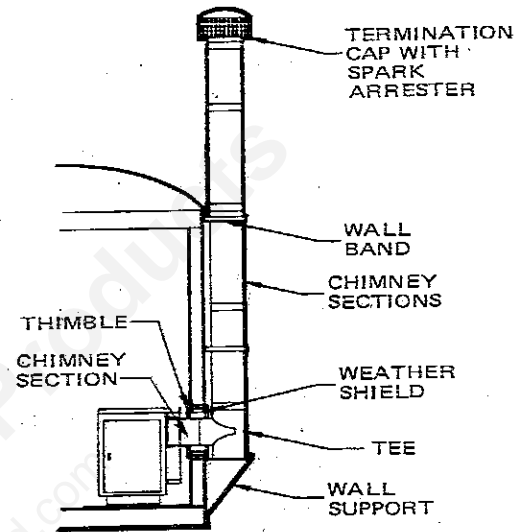


FIG. 13

NOTE: BEFORE MAKING A FINAL CHIMNEY SELECTION, CHECK THE AVAILABILITY OF THE PARTS. SOME CHIMNEY MANUFACTURERS MAY HAVE AS THEIR SHORTEST SECTION OF CHIMNEY A SECTION OF PIPE 12" LONG. IN ORDER TO HAVE THE MINIMUM WALL CLEARANCE TO THE HEATER, THIS WOULD REQUIRE ONE OF THE FOLLOWING SOLUTIONS WHEN USING A 12" SECTION FROM THE REAR OF THE HEATER:

1. Build a frame work on the exterior of the mobile home to space the chimney a proper distance from the exterior wall to allow for the stove to be a min. of 7" from the interior wall. (Be sure to maintain the minimum clearance to combustible materials.)
2. Allow the heater to extend farther into the living area of the mobile home. An advantage to this solution is that the triple wall pipe will give off heat that would otherwise be lost.

IF THE CHIMNEY YOU SELECT HAS AVAILABLE 6" LONG CHIMNEY SECTIONS, YOU WILL BE ABLE TO MAINTAIN THE 7" BACK WALL CLEARANCE IN THE INSTALLATION. Fig. 12 and 13 show height and general chimney parts required. Refer to the list above for the specific name and stock number for these parts by manufacturer.

3. After selecting a chimney and the area in which the stove will be located, install the chimney per the manufacturers' instructions. It is recommended that the opening in the wall for the chimney be located between two studs. To provide support for the tee support outside the mobile home, (3) 1" x 3" boards may be placed between the wall studs where the heater is located as shown in Fig. 21, Page 17. The chimney must extend through the wall and end at the cabinet back of the heater. See Fig. 14.
4. Assemble the heater chimney connector and chimney as it will be when the heater installation is completed. Take careful measurements of the distance between the cabinet back of the heater and the back wall. If this dimension is greater than 7" it will be necessary to add the difference to the 17-1/4" dimension in Fig. 21 in order to properly locate the center of the inlet combustion hole.

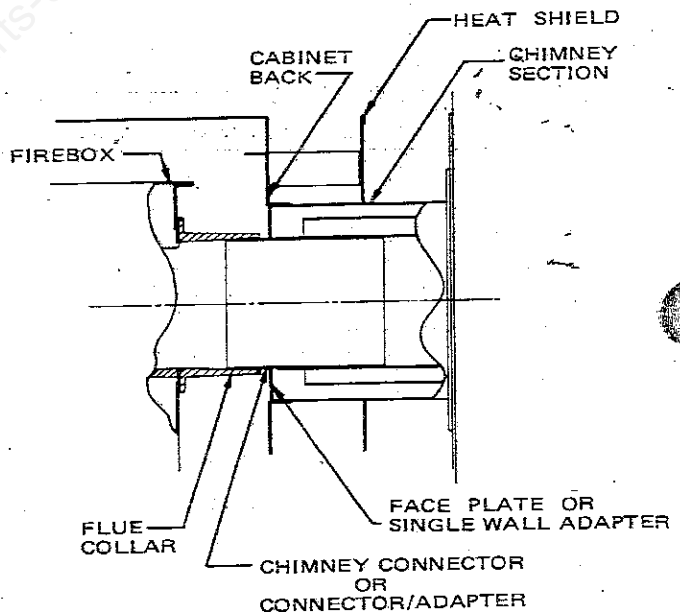


FIG. 14

- EXAMPLE:** Heater to backwall dimension = 11"
 $11" - 7" = 4"$
 Therefore, add 4" to 17-1/4" = 21-1/4"
5. Locate the inlet combustion air opening in the floor of the mobile home, then proceed with cutting the 6-1/2" dia. hole. See Fig. 21. Next take the floor protector for minimum clearance installation and cut a 6 1/2" dia. hole in it using Fig. 21a as a guide.
 6. After installing the chimney and cutting the 6-1/2" dia. hole in the floor for the inlet air, mount the wall shield to the heater using the instructions applying to Figure 15 on Page 15.
 7. Position the floor protector over the hole in the floor so that the holes align with each other. (See Fig. 21A, 21B on Page 17).
 8. The heater may now be positioned in the mobile home, but before moving the heater to the minimum clearance to the back wall, it is

9. recommended you position the connector pipe for a proper fit between the chimney and the heater. Follow the rules for connector pipe installation on Page 11. Some connector pipes may be too long for proper fit between the chimney and the heater. If this is the case, carefully trim the connector pipe.
9. After positioning the heater, attach a 6" chimney connector pipe to the combustion air inlet following the instructions in Fig. 22 and Fig. 23 on page 17.

Installation of the Heat Shield

1. The heat shield must be used in a mobile home installation or in a residential installation where minimum clearance is desired.
2. The shield is assembled using the four (4) brackets with nuts and machine screws that are provided in the parts bag.
3. The brackets are assembled to the shield as shown in Fig. 15.
4. The shield is positioned as shown in Fig. 15. The 10½" dia. hole is to be positioned directly over the flue collar.
5. Use the four (4) sheet metal screws provided to attach the shield to the cabinet back of the heater.

NOTE: WHEN INSTALLING A UNIT WITH THE OPTIONAL BLOWER, REMOVE THE CLEARANCE PANEL FROM THE HEAT SHIELD.

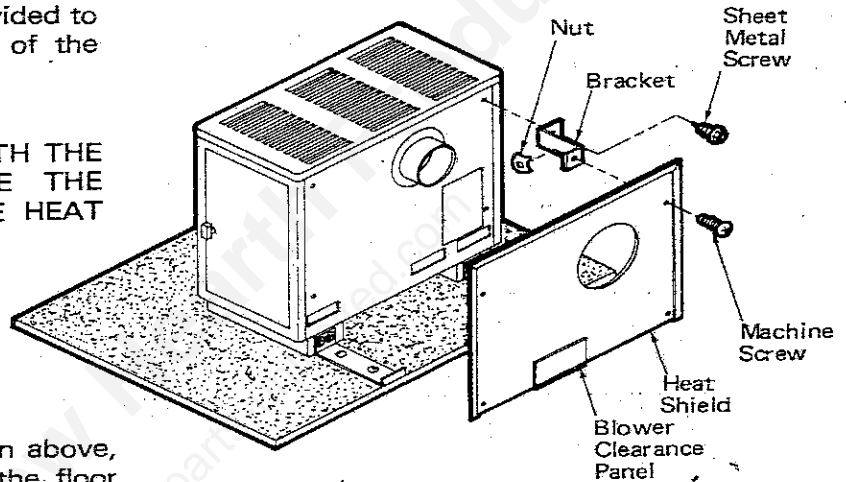


FIG. 15

Final Installation

1. After the heater is positioned as shown above, mount the heater to the floor using the floor brackets provided in the parts bag.
2. Attach brackets to the heater using the sheet metal screws provided. Then attach the brackets to the floor using the wood screws provided. See Fig. 16 and 17.
3. Install a ground connector. A No. 8 copper conductor, solderless terminals, star washers, (paint penetrating washers) and bolts are required to be attached to the stove and to the frame of the mobile home. (This is to be supplied by the installer).

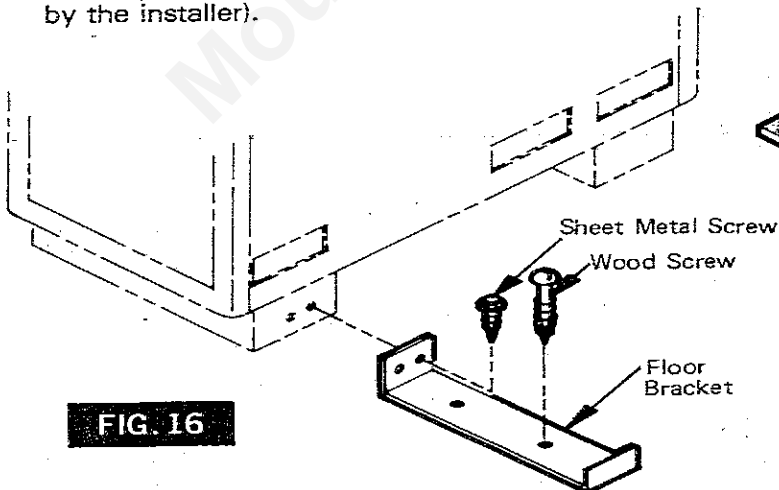


FIG. 16

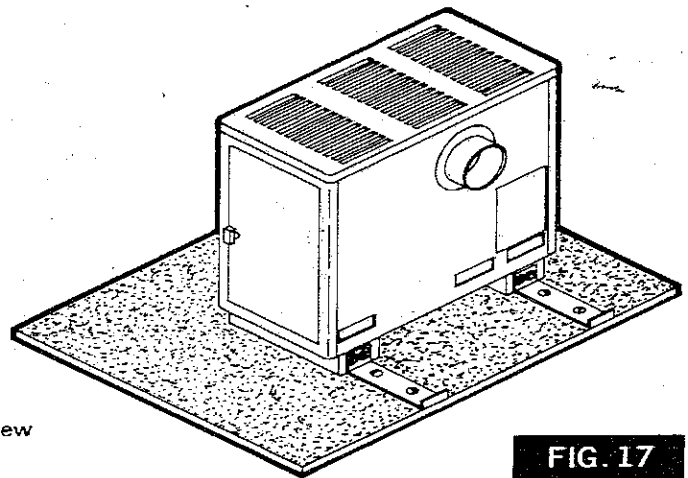
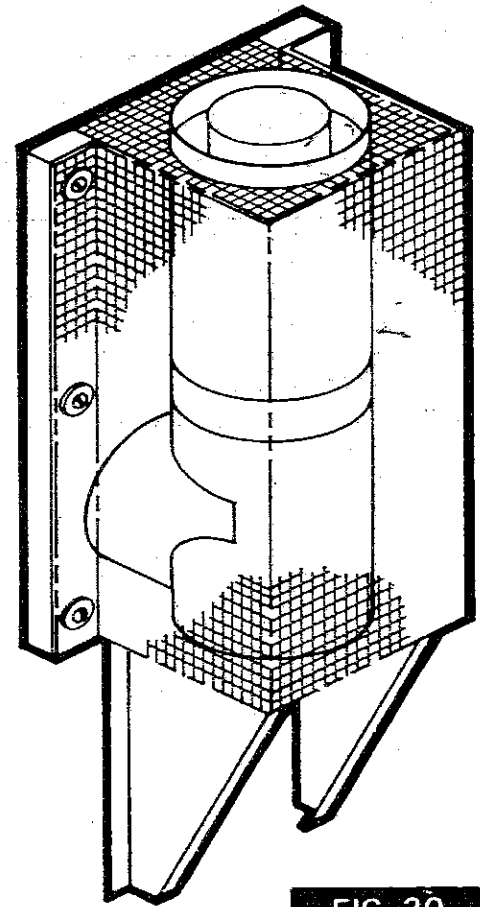
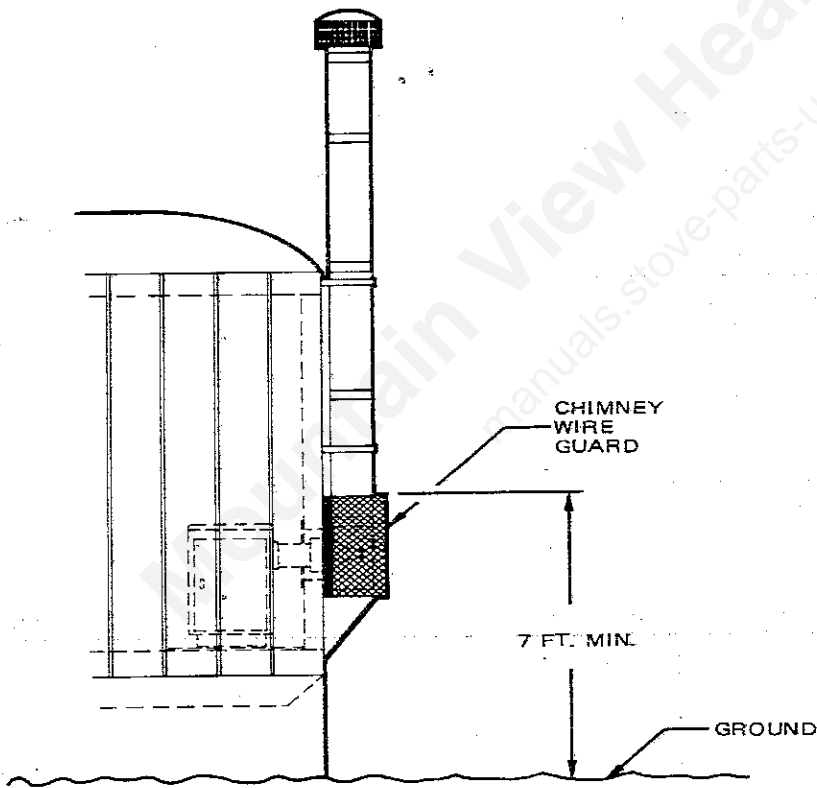
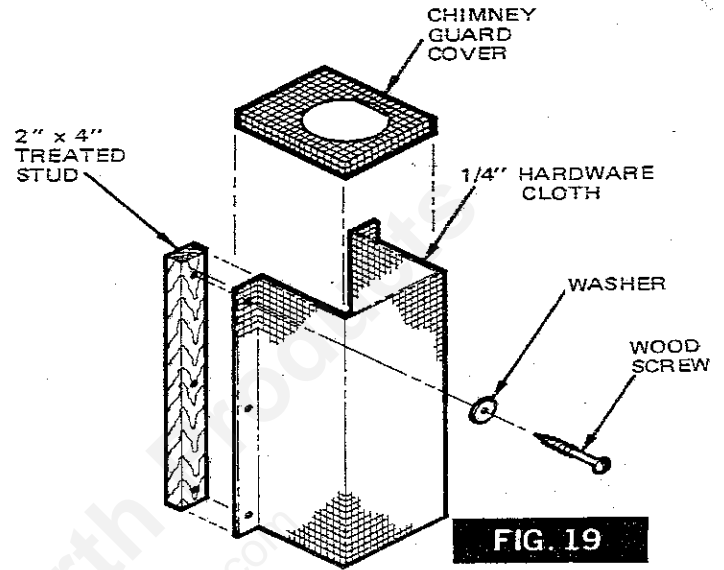


FIG. 17

Construction of Chimney Guard

1. A chimney guard is required on all mobile home installations. It is suggested that this same guard be built for all triple wall chimney installations.
2. The guard should extend from the base of the chimney to a point 7 feet minimum above the ground. See Fig. 18.
3. Construct the guard of 1/4" hardware cloth to allow for about a 2" space between the chimney and the guard.
4. Mount the guard to the mobile home by attaching the hardware cloth to a 2 x 4 stud as shown in Fig. 19.
5. The final installation will appear as in Fig. 20.



III. General Instructions

Combustion Air Inlet

1. Heater is provided with a 6" dia. collar for combustion air inlet on bottom.
2. If desired, combustion air can be brought in from outside the house by cutting a 6 1/2" diameter hole in the floor as shown in Fig. 21.

NOTE: To provide support for the tee support outside the mobile home, (3) 1" x 3" boards may be placed between the wall studs where the heater is located as shown in Fig. 21.

3. If installing the heater in a residence with the standard clearance, cut a hole in the floor protector as shown in Fig. 21A. If installing in a mobile home or in a residence with a minimum clearance, cut a hole in the floor protector as shown in Fig. 21B.
4. Any length of 6" single wall stove pipe may be used to connect the 6" inlet collar. Use the tapered end of the 6" pipe to fit into the collar. It will be necessary to drill two (2) 1/4" dia. holes 3/8" from the tapered end exactly opposite each other to align with the holes in the collar. See Fig. 22.
5. After cutting the hole in the floor, preparing the 6" inlet air pipe and cutting the hole in the floor protector, place the floor protector in position. Then place the heater over the hole and position the pipe in the collar. Then using the rod provided, place the rod through the collar and the pipe and place the Tinnerman clip on the end of the rod to secure it in place. Fig. 23.

NOTE: SEAL AROUND THE UNDERSIDE OF THE OPENING IN THE FLOOR WITH A SILICONE SEALANT.

FLOOR PROTECTOR FOR MINIMUM CLEARANCE INSTALLATION

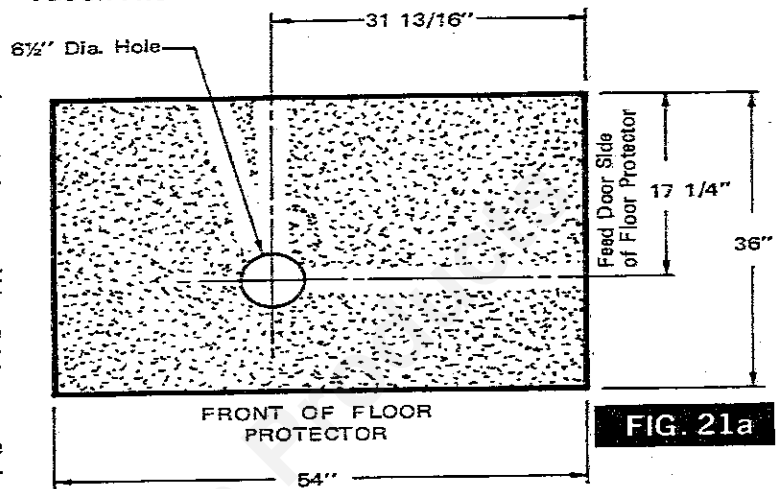


FIG. 21a

FLOOR PROTECTOR FOR STANDARD CLEARANCE INSTALLATION

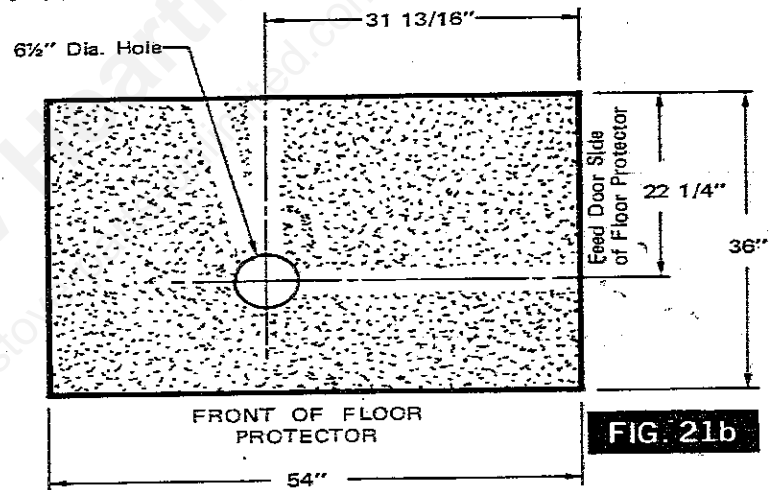


FIG. 21b

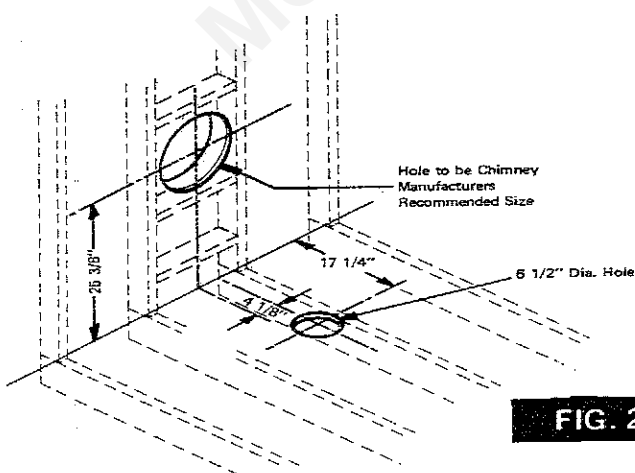


FIG. 21

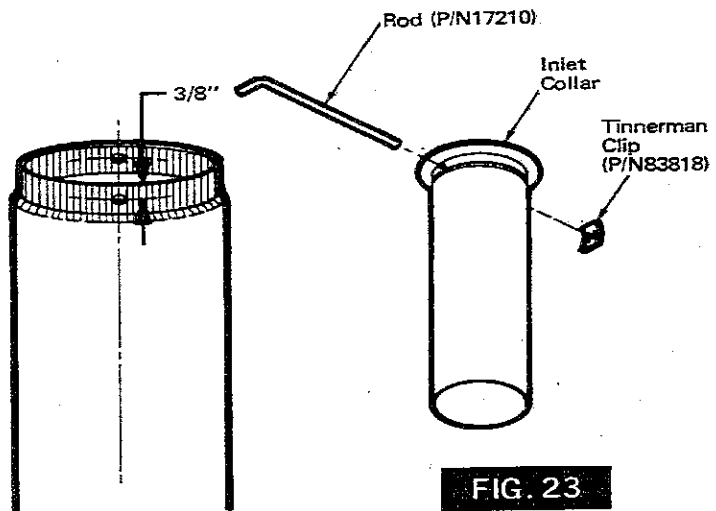


FIG. 23

FIG. 22

operating instructions

FUEL

Egg size (1-3/16 or larger) coal for residential heaters. Coal with a low ash content (2% to 6%) is recommended. Do not use Cannel Coal.

Hardwood, 18" to 22" should be split and air dried (seasoned) for 6 months.

NOTE: STORE COAL IN A DRY, WELL VENTILATED AREA.

LIGHTING

1. Set the thermostat on "HIGH" for maximum draft.
2. Open the feed door and place paper and kindling on the grate for starting the fire.
3. Light fire and close feed door.
4. Add wood or about 15 lbs. of coal after fire is burning briskly. Use care not to smother the kindling fire.
5. Set thermostat for desired temperature. "MEDIUM" setting is normally satisfactory. Set higher or lower for your comfort.

ADDING FUEL

When possible, add small amounts of fuel each hour or so instead of large quantities of fresh fuel over long periods of time. This will give more complete combustion and less build-up of tars or soot in the chimney.

1. Set Thermostat to HIGH before opening feed door.
2. Wood Fire-Do not add fuel above firebox liners.

CAUTION

GASES THAT ARE DRIVEN FROM FRESH COAL MUST BE BURNED OR THEY WILL ACCUMULATE AND EXPLODE. NEVER SMOTHER A FIRE WHEN ADDING FRESH COAL.

CAUTION

BUILD FIRE ON INTEGRAL GRATE THAT IS PROVIDED WITH THE HEATER.

CAUTION

OVERFIRING THE APPLIANCE MAY CAUSE A HOUSE FIRE. IF UNIT OR CHIMNEY CONNECTOR GLOWS, YOU ARE OVERFIRING.

3. Coal Fire-Never smother the fire when adding coal (see CAUTION below). Gas accumulation and a mild smoky explosion will occur.
 - a. Add fresh kindling if the bed of coals has cooled.
 - b. Add up to 20 lbs. of coal. Never add coal above top of fire brick.
 - c. Stir the coal and watch the fire. Be sure the new coal is burning briskly before you close the doors and turn the thermostat down.
 - d. Adjust air shutter on feed door damper from closed to open position for better burning. (See Fig. 24). This air shutter should be in the open position only when burning coal.
4. Shake grates vigorously 1/2" towards and away from the ash door opening to dump ashes into ash pan. Do this at least once every 12 hours of operation. Empty ash pan regularly. Do not allow ashes to build up to grate as grate will warp and burnout, and you might spill the ashes when removing the pan. Dispose of hot ashes properly (see Note 12 on page 3).

CAUTION

DO NOT OPERATE WITH THE FEED, ASH, OR CABINET DOOR OPEN. THIS HEATER IS DESIGNED FOR THERMOSTATIC OPERATION. OPERATION WITH ANY OF THESE DOORS OPEN WILL OVERHEAT AND DAMAGE THE HEATER.

CAUTION

NEVER USE GASOLINE, GASOLINE-TYPE LANTERN FUEL, KEROSENE, CHARCOAL, LIGHTER FLUID, OR FLAMMABLE LIQUIDS TO START OR "FRESHEN UP" A FIRE IN THE HEATER.

WARNING

NEVER STORE FLAMMABLE LIQUIDS, ESPECIALLY GASOLINE, IN THE VICINITY OF THE HEATER.

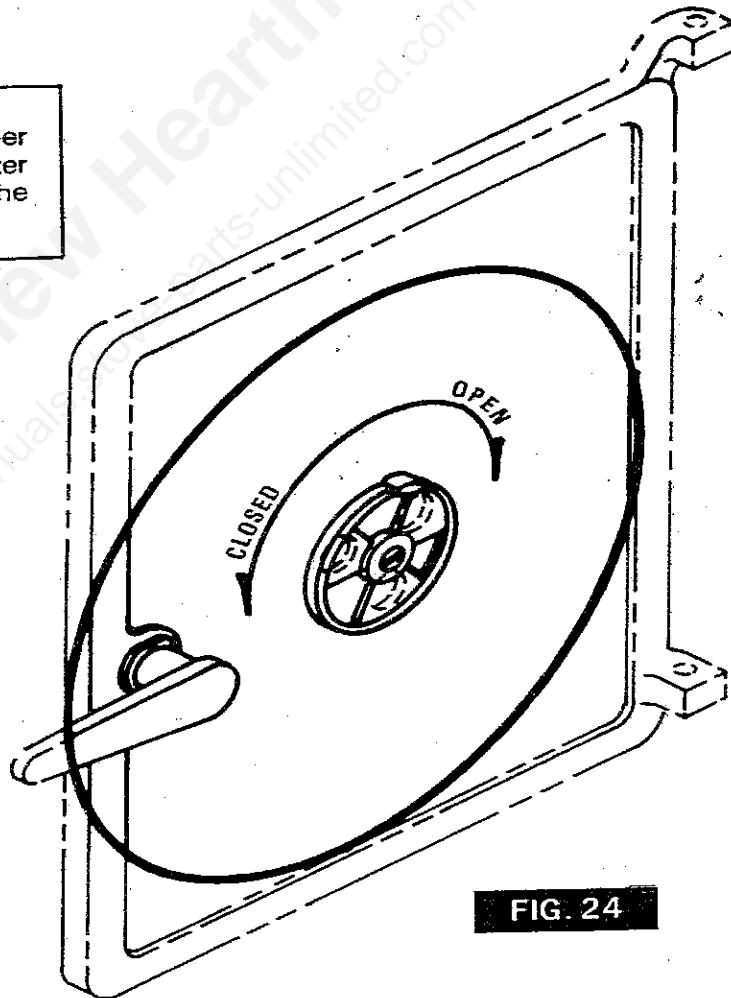
SUGGESTIONS FOR BURNING ANTHRACITE COAL

1. Anthracite coal may be burned in the Model 4027 Wonder Coal. Always follow instructions that are shown in the Owners Manual.
2. With coal, as with wood, it is important to maintain a clean chimney. The chimney connector and chimney should be inspected at least twice monthly during heating season.
3. Keep the grate clear of ash and cinders. Use the shaker grate to keep the ashes from building up in the firebox.
4. Do not operate the unit with the ash door, feed door, or cabinet door open.
5. Anthracite coal burns with a short, blue flame with the coals having a glowing, red color. Before adding coal, when starting the fire, have a good hot log fire burning.
6. After having a log fire burning, add small amounts of coal until a bed of coal is built up.
7. A draft reading of $-.05$ to $-.06$ in w.c. is required for anthracite to burn.

The draft wheel located on the feed door should be opened when burning coal and closed when burning wood. The draft wheel provides a source of secondary air that is needed when burning coal. Secondary air is needed because when coal burns, it gives off large quantities of volatile gases that need additional air before complete combustion can occur. This draft wheel may be adjusted to give the best performance depending on the particular needs of the user.

NOTE

Adjust air shutter on feed door damper from closed to open position for better burning. This air shutter should be in the open position only when burning coal.



service hints

Do not expect a heater to draw. It is the chimney that creates the draft. Smoke spillage into the house or excessive build-up of water or creosote in the chimney are warnings that the chimney is not functioning properly. Correct the problem before using heater. Possible causes are:

1. The connector pipe may be pushed into the chimney too far, stopping the draft (Fig. 11).
2. Do not connect two heaters into the same chimney flue.
3. The chimney used for a heater must not be used to ventilate the cellar or basement. If there is a cleanout opening at the base of the chimney, close it tightly.
4. If the chimney is operating too cool, water will condense in the chimney and run back into the stove. Creosote formation will be rapid and may block the chimney. Operate the heater at a high enough fire to keep the chimney warm preventing this condensation.
5. If the fire burns well but sometimes smokes or burns slowly, it may be caused by the chimney top being lower than another part of the house or a nearby tree. The wind blowing over a house or a tree, falls on top of the chimney like water over a dam, beating down the smoke. The top of the chimney should be at least 3 feet above the roof and be at least 2 feet higher than any point of the roof within 10 feet (Fig. 8).

NOTE

A draft reading of .05 to .06 w.c. is suggested for proper burning of this unit when using wood or bituminous coal as fuel. When using anthracite coal, this draft reading is a minimum reading.

chimney maintenance

Creosote and Soot - Formation and Need for Removal

When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire.

When coal is burned, the products of combustion combine with moisture to form a soot residue which accumulates on the flue lining. When ignited, this soot makes an extremely hot fire.

The chimney should be inspected at least twice monthly during the heating season to determine if a creosote buildup has occurred.

If creosote or soot has accumulated, it should be removed. Failure to remove creosote or soot may cause a house fire. Creosote may be removed by

using a chimney brush or other commonly available materials.

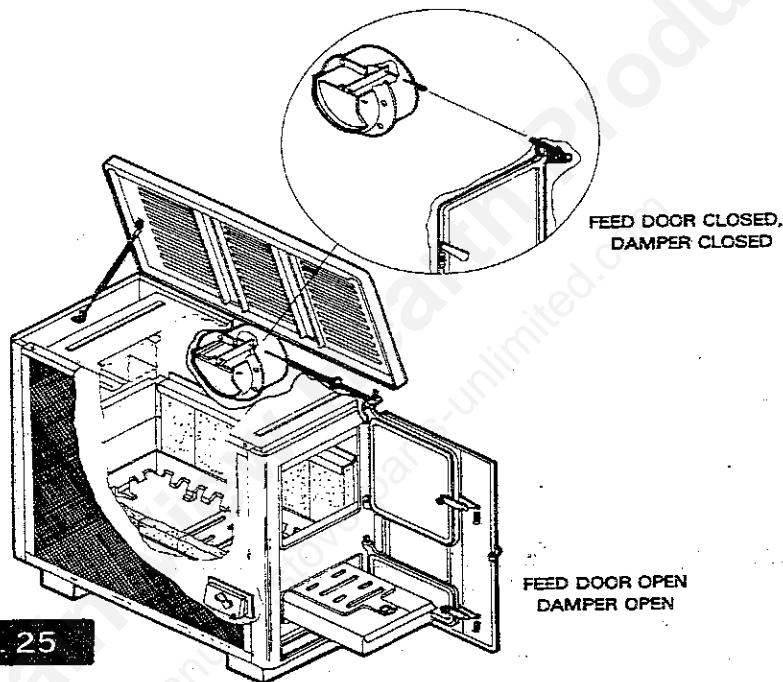
Chimney fires burn very hot. If the chimney catches fire, immediately call the fire department, then reduce the fire by closing the inlet air control. Pour a large quantity of coarse salt, baking soda or cool ashes on top of the fire in the firebox.

CAUTION

A chimney fire may cause ignition of wall studs or rafters which you thought were a safe distance from the chimney. If you have a chimney fire, have your chimney inspected by a qualified person before using again.

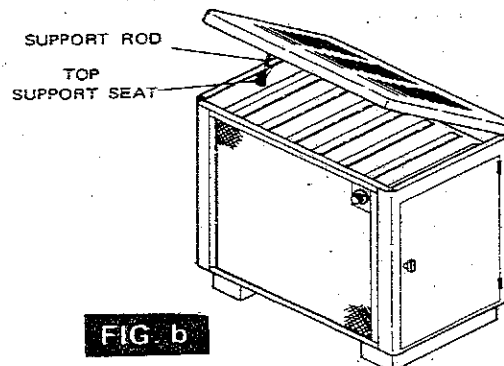
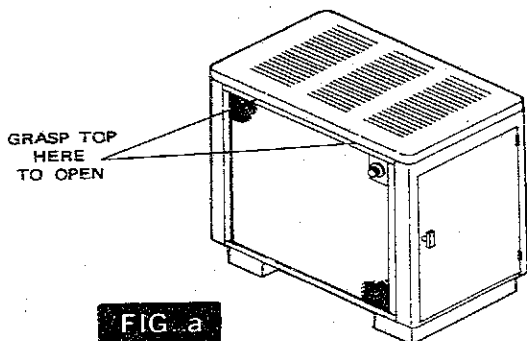
CAUTION

THIS HEATER IS DESIGNED WITH A FLUE COLLAR DAMPER WHICH OPERATES AUTOMATICALLY WHEN THE FEED DOOR IS OPENED AND CLOSED. IF THE UNIT SMOKES WHEN THE FEED DOOR IS OPEN, CHECK THE FLUE COLLAR DAMPER TO SEE THAT IT IS OPEN ALSO. FAILURE OF THE DAMPER TO OPERATE PROPERLY MAY CAUSE SMOKE AND FLAME TO ESCAPE THROUGH THE FEED DOOR IN THE OPEN POSITION. (FIG. 25)



operation of the lift top

CAUTION - DO NOT OPEN OR CLOSE TOP WHEN HEATER IS HOT! To open, lift the front edge of the cabinet top to the full open position. Then gently lower the TOP until the TOP SUPPORT ROD latches in the Top Support seat, to hold the top. (Fig. a)—To close, lift TOP until the TOP SUPPORT ROD is unlatched. Pull the ROD forward and lower the TOP (Fig. b).



Instructions for Two-Step Latch Operation

1. Follow these instructions to operate your unit safely when operating the feed door.
2. Turn handle clockwise to the 12 o'clock position, pull the door open until you engage the second step. (Fig. 26).
3. Hold the door in that position for approximately 10 seconds.
4. Then to open door, turn the handle counter clockwise to the 9 o'clock position and then continue to pull the door open. (Fig. 27).
5. To close and latch the door, reverse steps 4 thru 2.

NOTE
THIS NEW LATCHING MECHANISM MEETS CODES AND REGULATIONS AND PROVIDES MORE SAFETY FOR THE USER OF THIS STOVE.

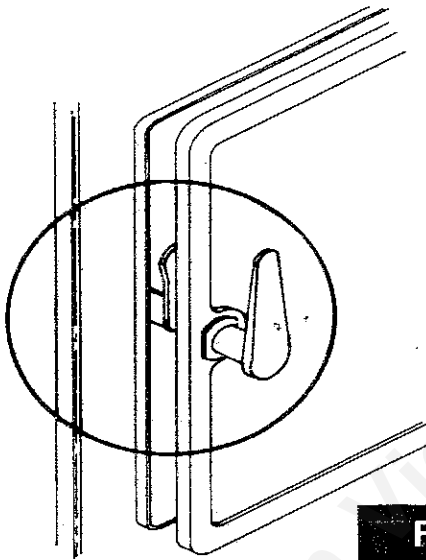


FIG. 26

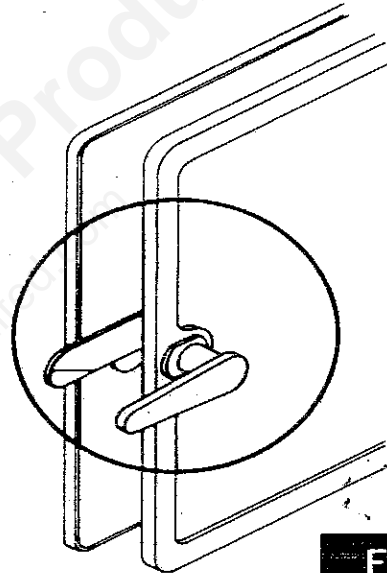


FIG. 27

NOTE
During opening and closing of the feed and ash doors of this heater, it may seem that the fit of the doors are "too tight". As the heater is fired, the gasketing "settles" or "seats" itself in the doors. The tight fit at the factory and before the heater's initial firing is to insure a good seal after the gasketing "settles".

FEED/ASH DOOR HANDLE ASSEMBLY

Read and Complete Before Firing Unit

1. Remove wooden handle from inside of the ash pan.
2. Place the metal hook of the wooden handle through the hole in the end of the cast iron door handle. (Fig. 28).
3. Using pliers close the metal hook so the wooden handle cannot be removed.

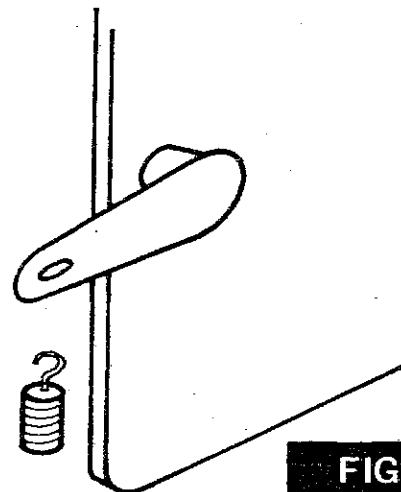


FIG. 28

Cabinet Door Latch Assembly

The door knob is mounted inside of the cabinet door to facilitate shipping and must be reversed for proper usage.

To get cabinet door open, place hand under cabinet frame (Right hand side — cabinet door side) and push door out.

Install the Cabinet Door Knob Using the Steps Below.

- 1) Remove the machine screw and door knob (Fig. 29).
- 2) Place door knob on outside of cabinet door. Then place machine screw through hole and into door knob and tighten (Fig. 30).

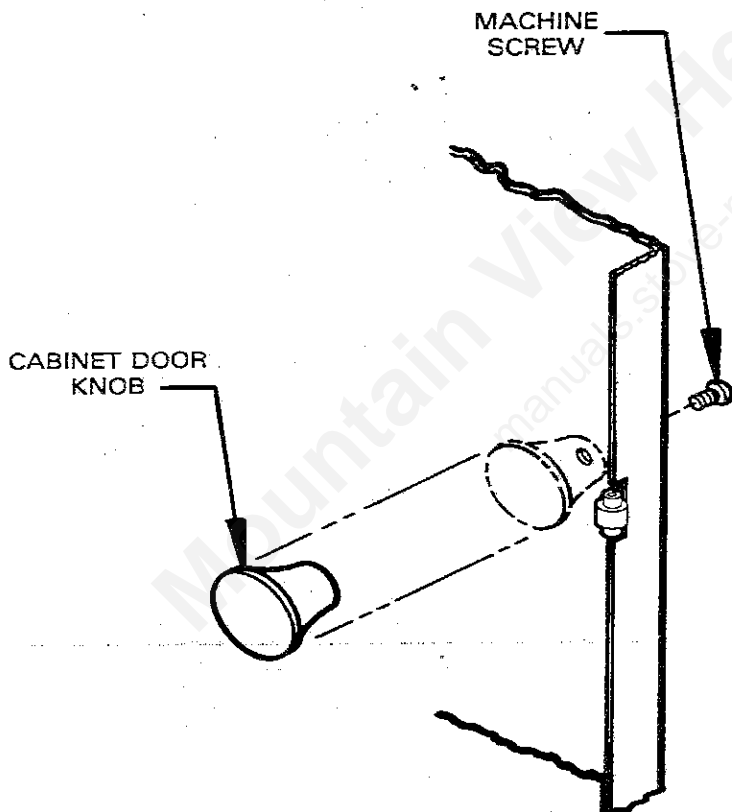


FIG. 29

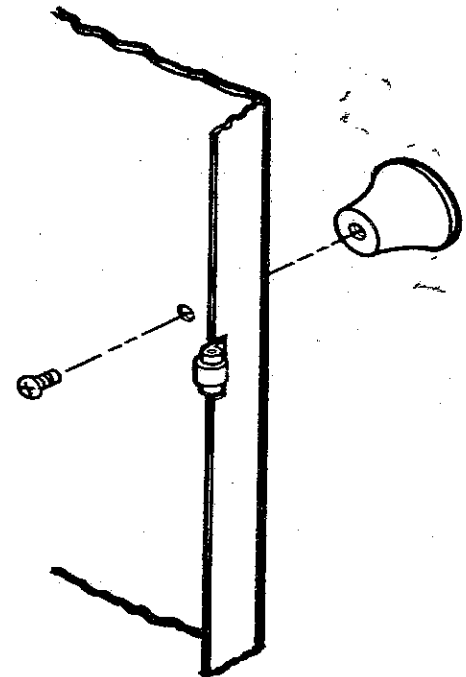
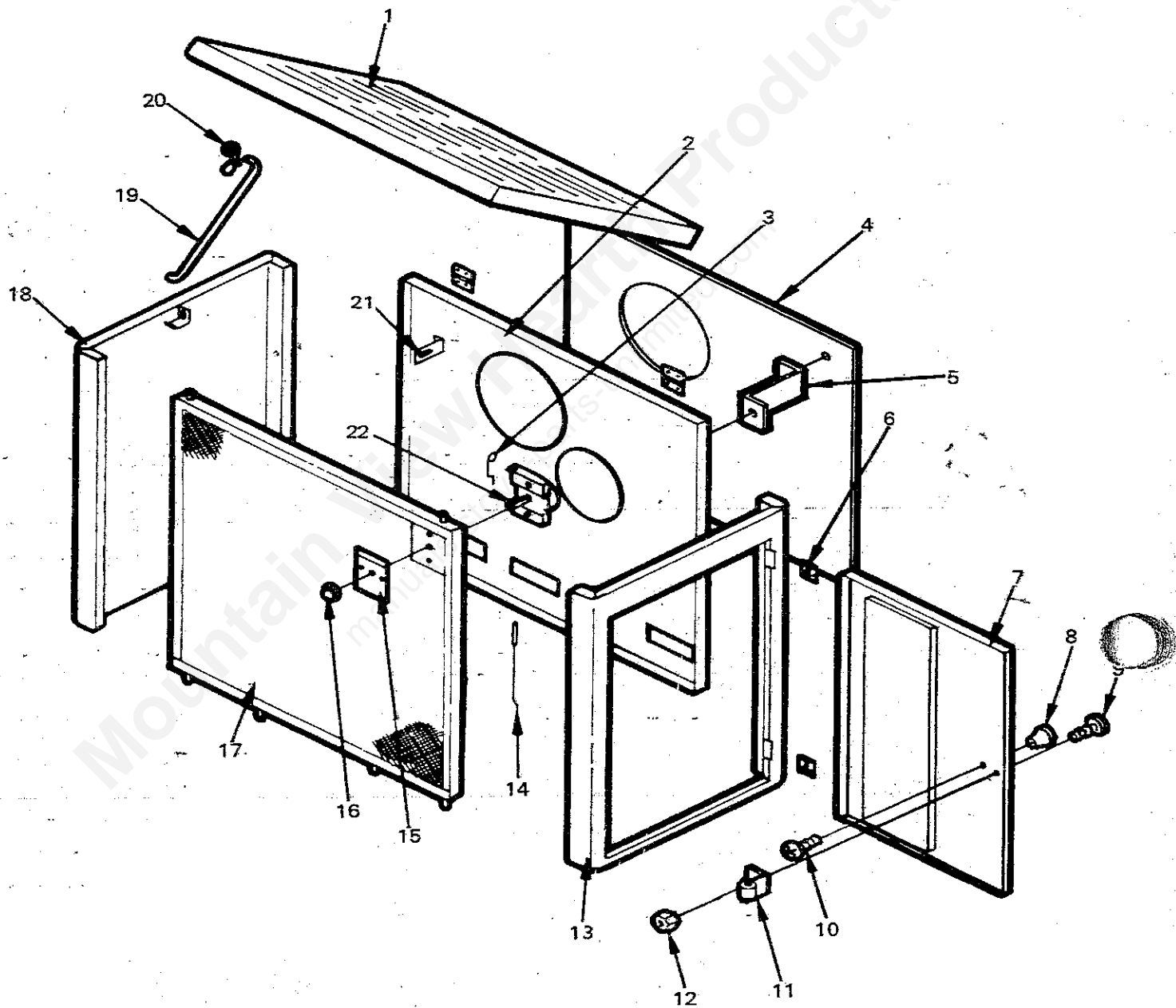


FIG. 30

repair parts

AUTOMATIC COAL BURNING CIRCULATOR MODEL NUMBER — 4027



June 1988

Repair parts

AUTOMATIC WOOD/COAL BURNING CIRCULATOR
MODEL NUMBER 4027

Key No.	Part No.	Description	
1	68028	Cabinet Top	24.52
2	67514	Cabinet Back	17.67
3	86246	Thermostat Linkage	.43
4	22088	Cabinet Back Heat Shield	11.60
5	22087	Cabinet Back Shield Bracket (4 req'd)	2.21
6	89065	Door Hinge (4 req'd.)	.21
7	68059	Cabinet Door	20.28
8	89062	Door Knob	.57
9	83033	Machine Screw (8-32 x 1/4" PH)	.03
10	83005	Machine Screw (10-24 x 1/2" PH)	.04
11	83093	Spring Latch	1.02
12	83244	Keps Nut (10-24 PIN)	.04
13	68056	Cabinet Door Frame	17.92
14	86191	Thermostat Linkage Adj.	.41
15	85390	Control Panel Plate	2.04
16	89142	Thermostat Knob	1.53
17	67852	Cabinet Front	30.48
18	68050	Cabinet Left End	18.84
19	21593	Hinge Support	.48
20	83833	Hinge Clip	.34
21	22102	Back Brace	1.48
22	67743	Thermostat Assembly	6.62

27103
68605
262113
4027

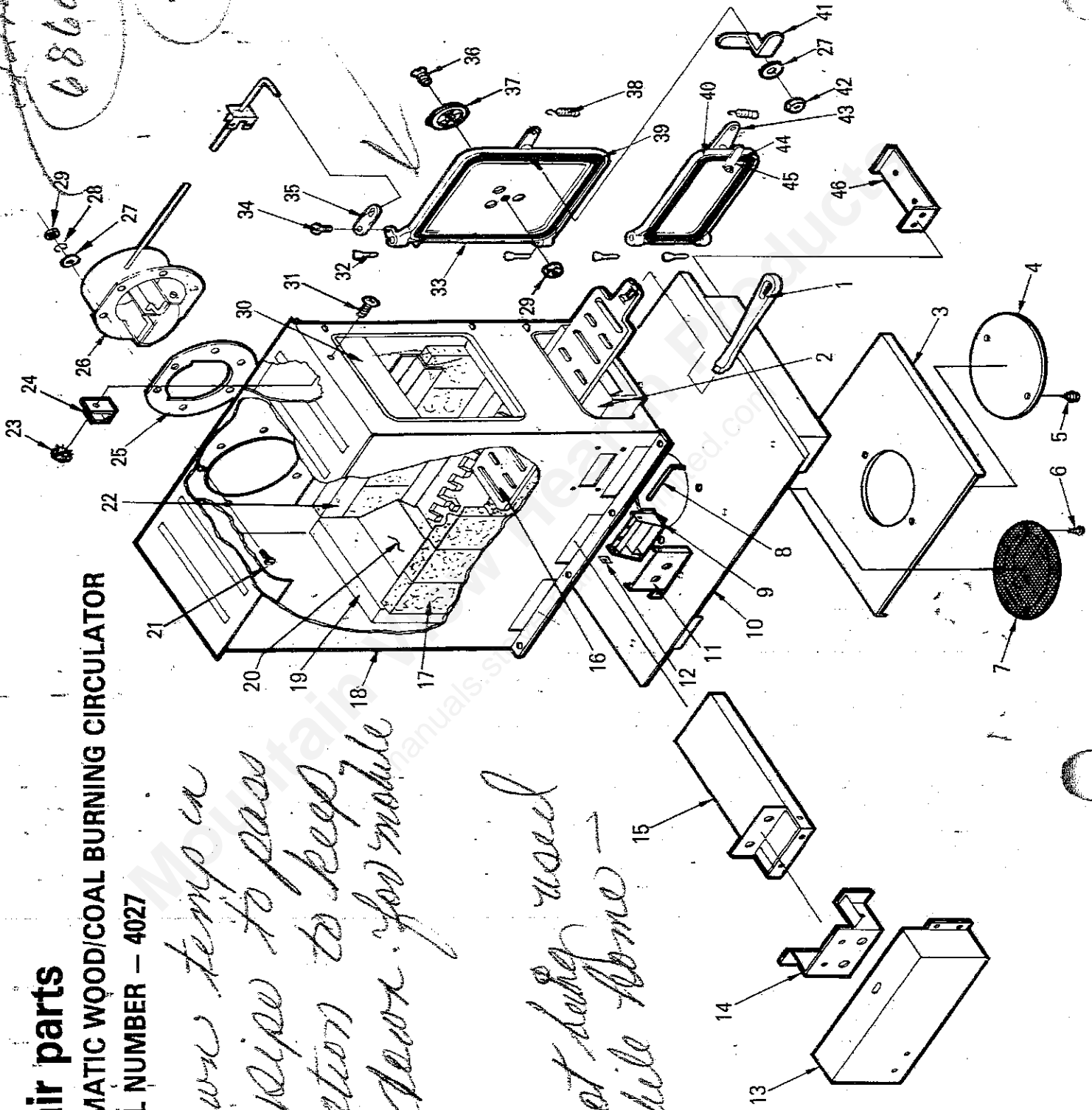
repair parts

AUTOMATIC WOODCOAL BURNING CIRCULATOR

MODEL NUMBER - 4027

420
Cut down temp in
flue pipe to pass
inspection to keep
temp. down. for mobile
homes

not being used
in mobile home -



June 1988

repair parts

WOOD/COAL BURNING CIRCULATOR—MODEL NUMBER 4027

Key No.	Part No.	Description	
1	40045	Shaker	2.12
2	67444	Pan, Ash	11.12
3	22091	Shield, Heat (Base)	2.76
4	22179	Cover Plate (Heat Shield)	1.20
5	83171	Screw, Tapping (10AB x 1/2" HX W HDZ) (2 Req'd)	.04
6	83165	Screw, Tapping (10A x 1/2" SL HX W HDZ) (6 Req'd)	.04
7	67856	Screen, Air Inlet	4.20
8	17200	Pin, Draft Control	.48
9	67843	Frame, Draft Damper	6.58
10	67844	Base	26.28
11	22089	Damper, Draft Control	1.53
12	83818	Clip, Spring Steel (3 Req'd)	.05
13	22093	Chute, Combustion Air (Inlet)	3.60
14	22095	Adapter Combustion Air Chute	1.71
15	67849	Chute, Air Inlet	8.95
16	40101	Grate, Coal	20.80
17	89066	Firebrick (10 Req'd)	1.81
18	67854	Firebox	129.01
19	40100	Liner	7.80
20	40192	Liner, Firebox (2 Req'd)	15.68
21	83227	Screw, Machine (1/4 - 20 x 1" SL FHZ) (6 Req'd)	.04
22	40132	Retainer, Top Firebrick (2 Req'd)	7.60
23	83250	Nut, Keps (1/4 - 20) (2 Req'd)	.05
24	22171	Bracket, Smoke Curtain (2 Req'd)	1.20
25	88051	Gasket, Flue Collar	2.00
26	67846	Flue Collar	26.32
27	83045	Washer, 5/16" (7 Req'd)	.04
28	83002	Lockwasher, 1/4" (5 Req'd)	.04
29	83072	Nut, (1/4" - 20) (7 Req'd)	.04
30	22090	Smoke Curtain	2.60
31	83035	Screws, Machine (1/4-20 x 1/2" PH SLTH2) (2 Req'd)	.04
32	83114	Pin, Hinge (4 Req'd)	.17
33	22103	Door, Feed * (68605)	19.20
34	83051	Screw, Machine (10-24 x 1/2)	.04
35	21842	Arm, Control Rod	.56
36	83105	Screw, Machine (1/4 - 20 x 1-1/2" SC FH)	.06
37	40056	Wheel, Draft	2.50
38	67567	Handle, Wood (2 Req'd)	1.05
39	21804SV	Gasket	1.84
40	40187	Door, Ash *	10.60
41	22434	Latch Door Two-Step	.85
	83261	Lock Nut (1/4-20 Jam Top) (2 Req'd)	.14
	40091	Handle, Door (2 Req'd)	.61
	21803SV	Gasket, Rope Ash Door	1.28
	22108	Latch, Ash Door	.86
	22100	Floor Bracket (2 Req'd)	2.19
	67848	Feed Door Assembled (Inc. Handle & Gasket)	21.16
	67781	Ash Door Assembled (Inc. Handle & Gasket)	14.12
	95384D	Owner's Manual	2.25

* Not S

